

LOOK FOR A REPORT ON THIS GREAT NEW ADDITION FOR
YOUR TRS-80. I AM USING THE RF-II AND WILL HAVE
A REPORT IN THE JULY 79 ISSUE.
R. G. LLOYD, EDITOR

FULLER ELECTRONICS, 7465 HOLLISTER SUITE 232
GOLETA, CA 93017 - TOLL FREE (800) 638-200



RF-II



```
A  48 50/$ 60/$ 70/$ 80/$ 90/$ 100/$ 110/$ 120/$ 130/$
    140/$ 150/2 150/$ 160 160/$ 400 430/$
BC  38 90 110 410
C   88 100 299 300 350 360/2 400
DE  10 130/4 310/2 420
HL  20 90/4 110/4 300/4 310/2 430
I   0 510/2
IV  510/3 520/2
K   500
M   500/2 590/2
P   0 510/2 520/2 550/2 500
Q   550/3 555/2
X   90/2 110/2 130/2 300/2 310/2 350/3 360/3 410 420
    430/2 500 510/2
```

```
1 'THANKS TO STEVE MACGREGOR FOR THE ELEGANT DIVISION ROUTINE
2 'IN THE MAY NEWSLETTER. TO HELP FIGURE OUT WHAT'S GOING ON.
3 'THIS BASIC PROGRAM SIMULATES THE ROUTINE, SHOWING THE
4 'REGISTER CONTENTS AT EACH STEP (SURE BEATS PAPER AND PENCIL!)
8 DEFINITI-P
10 INPUT"DIVIDEND (HIGH ORDER)";DE
20 INPUT"DIVIDEND (LOW ORDER)";HL
30 INPUT"DIVISOR";BC
40 A=16
45 CLS
50 A$="D0 ADD HL,HL":GOSUB400:GOSUB299
60 A$="EX DE,HL":GOSUB400:GOSUB310
70 A$="ADC HL,HL":GOSUB400:GOSUB300
80 A$="OR A":GOSUB400:C=0
90 A$="SBC HL,BC":GOSUB400:HL=HL-BC:X=HL:GOSUB350:HL=X
100 A$="JR NC,D1":GOSUB400:IFC=0THEN130
110 A$="ADD HL,BC:ADD BACK":GOSUB400:HL=HL+BC:X=HL:GOSUB350:HL=X
120 A$="JR D2":GOSUB400:GOTO140
130 A$="D1 INC DE":GOSUB400:DE=DE+1:X=DE:GOSUB350:DE=X
140 A$="D2 EX DE,HL":GOSUB400:GOSUB310
150 A$="DEC A":GOSUB400:A=A-1
160 A$="JR NZ,D0":GOSUB400:IFAX=0THEN50ELSE10
299 C=0
300 HL=HL+2+C:X=HL:GOSUB350:HL=X:RETURN
310 X=HL:HL=DE:DE=X:RETURN
350 IFX<65535THENX=X-65536:C=1:RETURN
360 IFX<0THENX=X+65536:C=1ELSEC=0
370 RETURN
400 PRINT@0,"A=";A;"C=";C
410 PRINT@128,"BC=";X=BC:GOSUB500
420 PRINT@256,"DE=";X=DE:GOSUB500
430 PRINT@384,"HL=";X=HL:GOSUB500:FORX=1TO500:NEXT:PRINT@512,A$;CHR$(30):RETURN
500 PRINTX
510 I=X+65536*(X/32767):IV=VARPTR(I):P=PEEK(IV+1):GOSUB550:P=PEEK(IV):GOSUB550
520 PRINT, P=PEEK(IV+1):GOSUB500:PRINT" ";P=PEEK(IV):GOSUB500:PRINT:RETURN
550 Q=P/16:GOSUB555:Q=P-Q*16
555 PRINTCHR$(Q+48-7*(Q/9));:RETURN
500 M=128:FORX=1TO8:IFAX=0THENPRINT"1";ELSEPRINT"0",
590 M=M/2:NEXT:RETURN
595 :
600 'FOR A TAPE OF THIS, SEND COST OF TAPE AND POSTAGE (OR
610 'A PROGRAM IN TRADE)
620 'PHELPS GATES
630 '6 CRESTWOOD TR. PK. - RT. 4
640 'CHAPEL HILL, NC 27514
650 '7/4/79
```

I WOULD LIKE TO THANK:
C. W. EVANS, SUN CITY, AZ
JOE W. POCHE, RIDGECREST, CA
PHELPS GATES, CHAPEL HILL, NC
FOR THE PROGRAMS IN THIS ISSUE
YOUR EDITOR: R. GORDON LLOYD

F O R S A L E

LEVEL II 16K TRS-80 COMPUTER
MANY TAPES (GAMES-ETC.) PLUS TAPE CASE
15 ISSUES TRS-80 USERS GROUP
12 ISSUES BYTE MAGAZINE
LEVEL II MANUAL, LEVEL I MANUAL
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```

18 'THERE'S A PECULIAR BUG IN THE RADIO SHACK EDITOR/ASSEMBLER:
20 'ACCORDING TO THE MANUAL (AND MY CPU AGREES!), THE
30 'INSTRUCTION 18 80 (HEX) MEANS A RELATIVE JUMP BACKWARD
40 '(<7F IS THE LONGEST FORWARD JUMP). BUT TRY THIS ONE:
50 '
60 '          ORG      7000H
70 '          JR       7082H
80 '          END
85 '
90 'SURPRISE!..... THE ASSEMBLER THINKS THAT 18 80 IS A JUNK
118 'FORWARD! TO ADD TO THE CONFUSION, IT WILL ALSO ASSEMBLE
118 '"JR 6F82" (CORRECTLY) TO THE SAME INSTRUCTION. I HAVE
120 'VERSION 1.1: THIS MAY HAVE BEEN CORRECTED IN LATER RELEASES.
130 '
140 'HERE'S A PUZZLE IN LEVEL II BASIC.... THE FOLLOWING IS A
150 'LEGAL PROGRAM (NO RESERVED WORDS), BUT YOU MAY BE SURPRISED!
160 '
170 'OK=-1
180 'NO=1
190 'IFOK=NOTHENPRINT"-1=1":'NO SPACES
200 '
210 'HMM... WHAT HAPPENED???
220 'HINT: WHAT DOES HEN EQUAL?
230 'REMISA**MIDRAL: DON'T USE "NO" AS A VARIABLE NAME
240 '
250 'PHELPS GATES
260 '6 CRESTWOOD TR. PK. - RT 4
270 'CHAPEL HILL NC 27514

```

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HAVE LEVEL II AND AN ASR-33 AS A PRINTER WITHOUT THE INTERFACE UNIT. WOULD LIKE TO EXCHANGE USEFUL PRDGRAMS FOR SIMILAR TRS-80 SYSTEMS. SOME OF MINE INCLUDE:
THIS 'WORD PROCESSOR'. NO PROBLEMS INPUTTING TEXT AND GOING TO AND FROM TAPE WITH THE TEXT (IN SPITE OF NO 'LINE INPUT' FUNCTION AS AVAILABLE WITH DOS).
A BASIC AND MACHINE LANGUAGE PROGRAM COMBINATION TO INPUT, DISPLAY, CHANGE AND COPY ANY MACHINE LANGUAGE PROGRAM. THIS IS NOT AN ORDINARY SYSTEM "COPY" PRDGRAM. IT ALLOWS YOU TO SEE THE ENTRY, START AND END ADDRESSES AS WELL AS SYNCBYTES, CHECKSUMS, ETC. I USED IT TO TAKE OUT THE RADIO SHACK PRINTER ROUTINE IN THE 'EDITOR/ASSEMBLER' PROGRAM AND PUT IN MY OWN 'TTY' DRIVER.
WRITE: LARRY SYLVIA PINE RIDGE ROAD LINCOLN, MASS. 01773

MERVYN FRANKEL
C/O YAZERSKY
144-12 68 DRIVE
FLUSHING, NY 11367

IT WAS A PLEASURE TO SPEAK WITH YOU ON THE PHONE YESTERDAY. I AM LOOKING FOR ANY PROGRAMS FOR THE TRS-80 THAT WOULD AID IN RUNNING ANY ASPECT OF FARM LIFE.

IF YOU KNOW OF ANYONE DOING WORK IN THIS AREA PLEASE LET ME KNOW.
MY PHONE # IS (203) 323-3683

WILLIAM J. MYATT
14721 CANDEDA PLACE
TUSTIN, CA 92680

THE TRS-80 USERS HAVE AN AMATEUR RADIO NET WHICH MEETS ON THE AIR EACH SUNDAY AT 1900 HRS. GMT FOR ONE TO TWO HOURS.

THE FREQUENCY IS 14.342 MHZ AND IS COORDINATED THE WEST COAST BY MYSELF WASYKH BILL, AND ON THE EAST COAST BY WD8SAS ALSO BILL.

WE NOW HAVE 92 MEMBERS OF THE NET INCLUDING MEMBERS FROM MEXICO AND CANADA.

Included you find a print-out of a modification
of the RSM 2 so you can use a Baudot-printer with it. The printer
should have a 50 baudrate and the RS 232 C is needed. If you
think it's worth to print; please do.

Sincerely,

LESENE DANIEL
DWARSTRAAT 10
B 9690 KLUISBERGEN
BELGIUM

This is the ASCII to BAUDOT conversion table.

```
EB00: 44 20 05 44 44 44 05 0F 12 44 11 00 03 10 1D
EBD0: 16 17 11 01 0A 10 15 07 06 18 0E 00 0F 1E 12 19
ERE0: 44 23 39 2E 29 21 2D 3A 34 26 2B 2F 32 3C 2C 38
ERF0: 36 37 2A 25 30 27 3E 33 3D 35 31 44 44 44 44 00
```

REM Bytes F0B7 and F0B8 are set at 02h. They are used
as an INITIALISATION - flag and STATUS - flag resp.
(status-bit 5 = 1 if letter; status-bit 5 = 0 if figure)

The delay-routine FOAE - FOB6 is included to allow the
carriage to stabilise. If the dash-pot in the printer
is not to good the print-out can still be ok.

PATCH FOR RSM 2 (48K) to print baudot code
at 50 baud for TRS 80 with RS 232 C

D F050: FOBF

```
F050: F5 09 00 58 F0 09 F1 09 F5 3A B7 F0 B7 20 00 AF
F060: 32 B7 F0 03 E8 03 E9 3C 10 03 EA F1 FE 00 20 32
F070: 21 00 EB 06 20 F6 3F 4F 06 00 09 7E 47 FE 40 F2
F080: 98 F0 21 B6 F0 F0 20 BE 26 0E 77 05 3C 1F F2 93
F090: F0 3C 1D 47 00 98 F0 01 00 EA 01 77 26 FA 78 02
FOAC: E0 09 3E 08 47 00 98 F0 3E 02 47 00 98 F0 01 00
F0BC: 80 00 70 B1 20 F0 09 00 00 00 00 00 00 00 00
```

```
F050: F5
F051: D9
F052: 00 58 F0
F055: 09
F056: F1
F057: 09
F058: F5
F059: 3A B7 F0
F05C: B7
F05D: 26 00
F05F: AF
F060: 32 B7 F0
F063: 03 08
F065: 03 E9
F067: 3C 10
F069: 03 EA
F06F: F1
F0C0: FE 00
F0CE: 26 32
F070: 21 00 EB
F073: 06 20
F075: E6 3F
F077: 4F
F078: 06 00
F07A: 09
F07B: 7E
F07C: 47
F07D: FE 40
F07F: F2 98 F0
F082: 21 B6 F0
F085: E6 20
F087: 0E
F088: 26 0E
F08A: 77
F08B: 00
F08C: 3C 1F
F08E: F2 93 F0
F091: 3E 1B
F093: 47
F094: 00 98 F0
F097: C1
F098: 00 EA
F09A: 0B 77
F09C: 26 FA
F09E: 78
F09F: 03 EB
FOA1: 09
FOA2: 3E 0B
FOA4: 47
FOA5: 00 98 F0
FOAE: 3E 02
FOAA: 47
FOAB: 00 98 F0
FOAE: C1 00 80
FOF1: 0B
FOF2: 78
FOF3: B1
FOF4: 20 FE
FOF6: 09
COMMAND?
```

```
PUSH AF
EXX
CALL F058
EXX
POP AF
RET
PUSH AF
LD A,(F0B7)
OR A
JR Z ,F06B
XOR A
LD (F0B7),A
OUT EB
OUT E9
LD A,10
OUT EA
POP AF
CP 00
JR Z ,FOA2
LD HL,F100
OUT 20
AND 3F
LD C,A
LD B,00
ADD HL,BC
LD A,(HL)
LD B,A
CP 40
JP P ,F098
LD HL,F0B8
AND 20
CP (HL)
JR Z ,F098
LD (HL),A
PUSH BC
LD A,1F
JP P ,F093
LD A,1B
LD B,A
CALL F098
POP BC
IN EA
BIT 6,A
JR Z ,F096
LD A,B
OUT FB
RET
LD A,08
LD B,A
CALL F098
LD A,C2
LD B,A
CALL F098
LD BC,8000
DEC BC
LD A,B
OR C
JR NZ,F0B1
RET
```

Dear Gordon,

Was good to see my letter, although it was written and mailed to you over a year ago, in the recent issue of Newsletter. June 78, I received my Level II after a lot of flack sent to Ft. Worth.

Since then I have purchased, in Jan 79, a IP-125 PRINTER, from Integral Data Systems(MiniMicroMart) plus the P-1210 CONTROL option and A-1052 TRS-80 INTELLIGENT IF CABLE.

Anyone purchasing this Printer, I would suggest that they get the IP-225(has tractor feed) the IP cable and P-1240 Graphics Option, which includes the P-1210 Option above.

This unit is programmed from the keyboard or software. This includes 4 character sizes plus enhanced characters without reaching in the back to make any adjustment. The only drawback is that the paper comes out upsidown, rather the top comes out first, but facing the machine, so one can stand in the rear to read or wait till the program is printed and torn off. A small inconvenience to pay for the saving of the initial investment.

I also got an Expansion Interface, so to run the Printer and two cassettes, so now all that is needed is to learn how to run the whole mess.

With regard to some subscribers having trouble with advertisers not supplying products ordered, I have recently mailed SASE's to a few advertisers for information about their products and have heard nothing, so that makes me feel that they would not deliver if I ordered from them, so I wont, and it makes one feel skeptical about ordering from anyone who advertises in the computer publications, doesn't it?

Recently I had the Cassette Mod installed in my Keyboard and find a little difference in the CLOAD. To those who havnt had this Mod done, it's FREE, take advantage, see your R/S dealer.

Well thats all I have for now, I still would like to see less advertising and machine programs and more for the beginners.

I received the latest issue of the Newsletter, 23 June 79, and thought it was never going to come till July.

THANKS

MEL BUSCH
10909 Carr Rd
Jeffersonville, OH. 43128

TRS-80 QUALITY SOFTWARE

LEVEL I. AND LEVEL II.

#1. IDW-I CASSETTE DATA BASE	\$20.
#2. INV-I INVENTORY CONTROL	\$20.
#3. STOCK-I SECURITY INFO.	\$10.
#4. BANK-I CHECK BALANCE	\$10.
#5. FINANCE-I STOCK-I & BANK-I	\$15.

DISKETTE.

#12. MAIL-III MAILING LIST	\$35.
#14. WORD-III WORD PROCESSOR	\$35.
#21. INV-III INVENTORY CONTROL	\$35.
#22. KEY-III KEY RANDOM ACCESS	\$15.

LEVEL II

#11. WORD-I WORD PROCESSOR	\$25.
#15. MAIL-I NAME AND ADDRESS	\$25.
#16. SORT-I SORT UTILITY	\$10.
#17. STAT-I STATISTICS	\$10.
#18. KEY-I KEY-ACCESS	\$10.
#19. SALE-I SALE ANALYSIS	\$10.
#20. UTIL-I SORT-I & KEY-I	\$16.

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PRICE INCLUDES POSTAGE, CASSETTER & DOCU.

For those of you who have looked at the Radio Shack Line Printer and wished your rich aunt would die and leave you the money so you could afford 'Hard Copy', do not despair for there is an alternative to this costly situation. I have found what I consider to be a better printer at much less than half the cost of the Shack one. I am using the HEATHKIT H14 with my TRS-80 LEVEL II and have had great success with it.

Of course when you are mixing up the equipment then all of a sudden no one wants to be of any assistance to you, neither the Shack or Heath. I'll admit I did have some interface pains at first but not anymore. The main problem came from the software driver that came with the RS232 Interface. According to the explanation that came with it, it supposedly had a test routine in the driver to handshake with the printer to see if it could accept more data but this routine was not there!

As a result it would not run more than 300 baud without losing characters. Also the jumper they suggested on the DB25 cable did not work. The only other problem was the fact that it would print right across the perforations of the fanfold paper. No provision existed for a line counter and form feed control. This was taken care of by adding a subroutine to the software driver as well as another subroutine for the Handshake operation and now it is running at 9600 baud and form feeds like it should. The number of lines per page is set during the initial load of the driver at 50, but this can be changed by two POKES from BASIC or from DEBUG by changing the two HEX locations that set and store the line count.

The maximum instantaneous print rate is 165 CPS and sustained throughput is around 120-135CPS. As you can see it is FAST and is also a very simple kit to build for those of you who would be interested in saving the construction costs. It should also be obvious that it has the full 96 CHR ASCII set and if you have made the lower case mod as published many times in most of the Newsletters, it prints lowercase.

Other advantages over the Shack Printer include the fact that it is much smaller and lighter and comes standard with tractor feed with an adjustable range of 2 1/2 to 9 1/2 inches so label printing is also supported.

This printer works well with or without DISK but does require LEVEL II, EXPANSION INTERFACE AND RS-232 INTERFACE installed. The driver routine occupies less than 128 bytes and can be located at the top so that the available memory is not appreciably affected. I have patches for all three levels of memory, 16K - 32K - 48k and source listings too. I have spent many hours in the resolution of this interface problem and feel that I should recover something for my efforts and loss of hair (pulled out). I am making these patches available to those who may desire to adapt the HEATH H14 to their system for a very nominal fee.

ASSEMBLY LISTING ONLY	\$ 5.00
LIST. & OBJ CODE ON TAPE	\$10.00
LIST. & OBJ CODE ON DISK	\$15.00

I can be contacted by PHONE 919-436-1781 after 5 PM or by writing to Cw4 ROBERT C. MONK, 113 LUZON DR. FT. BRAGG, N.C. 28307 73's and happy printing, Bob Monk WA4GIU.

Joe W. Locke

224 W. Benson
Ridgecrest, CA
93555

June 10, 1979

TRS-80 Users Group
7554 Southgate Rd.,
Fayetteville, NC 28304

Mr. Lloyd:

The following Level I 4K two-part program was written to provide a cassette data file record and related search/display capability for a magazine article index. The simplicity of the program belies its convenience as a record keeping/recall tool.

The program was prepared in two parts for use in a 4K system. Part I is used to create the data file for the cassette record. Part II is used for data search and recall. The program can be easily adapted to most any type of record keeping/recall task that lends itself to coding of subject material. The amount of data that can be filed at one time is limited only by memory size.

The program presented here was written to accommodate 99 line entries of 4 items per line. It can be expanded in proportion to the memory available by changing the values in the FOR N loop, and increasing the number of entries per line.

Part I - Data Input & File: The data input are by numerical code for subject and magazine identification whereas page number and magazine date are by the applicable numerals. Subject/magazine code numbers are to be assigned by the user. The date is entered using a decimal to separate the month and year (this method was used to simplify the program and save memory space). The four data input elements are entered on a single line under the appropriate head as opposed to using an XX,XX,XX,XX type input. This is made possible by the PRINT AT G statement preceding the INPUT command. Part I is used only to create and record the data file; it is not used for data recall.

Part II - Data Search & Display: This program is used for reading the data file into memory for subsequent data retrieval and display. Once the data is read into memory, the file can be searched by subject and magazine, or by subject alone. Upon entering subject and magazine code, TRS-80 will search the file and display only issues carrying articles on the particular subject plus the respective page number and magazine date. Entering subject code and 0 results in a display of all magazines with the related subject articles plus page number and date. The search mode may be easily modified to other search combinations as may be convenient to the user.

Standard Level I BASIC abbreviations are used in the program presented. You are free to use the program at your discretion.

As a newcomer to the TRS-80 group, I find your publication most useful. I note the trend is toward Level II; while I do not like the idea of giving up the simplicity of Level I language, it seems that the step up to Level II will be inevitable.

Joe W. Locke
Joe W. Locke

PART I - DATA INPUT & FILE

VARIABLES USED:

O = INPUT ITEM COUNT	A(N) = SUBJECT CODE
G = INPUT PRINT AT LOCATION	A(N+100) = MAGAZINE CODE
N = INPUT/OUTPUT LOOP	A(N+200) = MAGAZINE PAGE
B\$ = INPUT RETURN	A(N+300) = MAGAZINE DATE
X = INPUT DECISION	

```
5 CLS: P.T.(15), "... DATA FILE INPUT ...": P.  
10 P."SUBJECT CODES ARE AS FOLLOWS:"  
20 P."1 = xxxx", "2 = xxxx", "3 = xxxx", "4 = xxxx"  
REM...LINE 20 IS EXAMPLE ONLY. SUBSTITUTE SUBJECT NAME FOR X's.  
    USE NUMERALS 1 TO 9 FOR SUBJECT CODE.  
30 P."MAGAZINE CODE IS AS FOLLOWS:"  
40 P."11 = xxx", "22 = xxxx", "33 = xxxx", "44 = xxxx"  
REM...LINE 40 IS EXAMPLE ONLY. SUBSTITUTE MAGAZINE NAME FOR X's.  
    IDENTIFICATION OF CODES HERE IS FOR CONVENIENCE ONLY AND MAY  
    BE EXCLUDED FROM PROGRAM IF REFERENCE LIST IS KEPT AT HAND  
    DURING THE INPUT CYCLE.  
50 GOS.1000  
60 O = 0: G = 64  
70 P."SUBJECT", "MAGAZINE", "PAGE NO.", "DATE (M.YR)"  
80 F. N = 1 TO 99  
90 P.AT G::IN.A(N): G = G+16: P.AT G::IN.A(N+100): G = G+16:  
92 P.AT G::IN.A(N+200): G = G+16: P.AT G::IN.A(N+300): G = G+16  
REM...INCREMENTING G CAUSES ALL 4 INPUTS TO BE PRINTED ON ONE  
    LINE BENEATH THE HEADS. THE LAST INCREMENT CAUSES RETURN  
    TO THE NEXT LINE.  
100 IF A(N) = 0 G. 130  
110 D = O + 1  
120 N.N  
130 GOS. 1000  
140 IN."TYPE 1 TO REVIEW INPUT, OTHERWISE 0": X  
150 IF X = 0 G. 200  
115 IF G>= 360 T. G = 64
```

```

160 CLS: P."SUBJECT","MAGAZINE","PAGE NO.,""DATE"
170 F.N = 1 TO D
180 P.A(N), A(N+100),A(N+200),A(N+300) : N.N
REM...NO PROVISION HAS BEEN INCLUDED HERE TO PREVENT SCROLLING
    OF DISPLAY - ADDITION OF A 13 LINE DISPLAY STOP IS OPTIONAL.
190 GOS. 1000
200 CLS: P."LOAD A DATA TAPE":P.
210 P."SET RECORDER TO RECORD MODE": GOS. 1000
300 P."WRITING DATA FILE TAPE"
310 F. N = 1 TO D
320 PRINT # D:",";A(N);",";A(N+100);",";A(N+200);",";A(N+300)
330 N.N
340 P."DATA FILE COMPLETE": P.
350 P."MARK DATA FILE FOR IDENTIFICATION": P.
360 P."CLOAD PART II FOR DATA SEARCH/DISPLAY"
370 END
1000 IN."PRESS ENTER TO CONTINUE":B$
1010 CLS: RET.

```

PART II - DATA SEARCH & RETRIEVAL

VARIABLES USED:

SEE PART I

B = SUBJECT CODE SEARCH INPUT

C = MAGAZINE CODE SEARCH INPUT

A\$ = DATA

```

5 CLS:P.T.(15),"... DATA DUMP ...": P.
10 P."LOAD DATA FILE FILE CASSETTE": P.
15 P."SET RECORDER TO CLOAD MODE": GOS. 1000
20 CLS: P."READING DATA FILE": P.
25 IN. # D
30 F. N = 1 TO D
35 IN. # A(N), A(N+100), A(N+200), A(N+300)
40 N.N
45 P."DATA DUMP COMPLETED": GOS.1000

```

```

50 P.T.(15),"... ARTICLE SEARCH ...": P.
60 P."SUBJECTS ARE FILED BY THE FOLLOWING CODE NUMBERS:"
70 F.N = 1 TO 4*: READ A$: P.N:" "A$: N.N: P.
REM...THE 4* NUMBER IN THE FOR N LOOP MUST EQUAL THE NUMBER OF DATA ITEMS.
    ...ADDITION OF A READ/PRINT LOOP FOR MAGAZINE CODE DISPLAY IS OPTIONAL.
80 IN."TYPE SUBJECT CODE AND MAGAZINE CODE (OR 0) AS #.# " : B.C
90 GOS. 200
100 F. N = 1 TO D
110 RESTORE
120 IF (A(N) = B) * (A(N+100) = C) GOS. 300
140 IF (A(N) = B) * (C = 0) GOS. 300
REM...LINES 120 AND 140 ALLOW SEARCH TO BE MADE BY SUBJECT AND
    MAGAZINE, OR BY SUBJECT ONLY.
150 N.N
160 P.AT960:: IN."TYPE 1 TO REPEAT OTHERWISE 0": X
170 IF X = 1 G. 50
190 D. SUBJECT 1, SUBJECT 2, SUBJECT 3, SUBJECT 4
REM...SUBSTITUTE SUBJECT NAMES FOR ABOVE, IN ACCORDANCE WITH
    SUBJECT CODE. TOTAL NUMBER OF NAMES MUST EQUAL NUMBER
    IN LINE 70 FOR N LOOP.
199 END
200 CLS: P."SUBJECT","MAGAZINE","PAGE NO.,""DATE (M.YR)" : RET.
300 F. T = 1 TO 4*
REM...NUMBER 4* MUST EQUAL NUMBER OF LINE 190 DATA ITEMS
310 READ A$ : IF T = A(N) T. 320
315 N.T
320 IF A(N+100) = 11 P. A$,"MAGAZINE 11", A(N+200),A(N+300)
330 IF A(N+100) = 22 P. A$,"MAGAZINE 22", A(N+200),A(N+300)
REM...LINES 320,330 ARE TYPICAL OF PROGRAMMING AT THIS POINT.
    ...ADD AS MANY LINES ARE NECESSARY FOR MAGAZINE CODES FILED.
    ...SUBSTITUTE MAGAZINE NAMES (UP TO 16 LETTERS) FOR
390 RET. "MAGAZINE 11",ETC.
1000 P.AT960: : IN."PRESS ENTER TO CONTINUE": B$
1010 CLS : RET.

```

C. W. Evans
9906 Amber Trail
Sun City, AZ 85351
(602) 933-1616

July 18, 1979

Mr. R. Gordon Lloyd, Editor
TRS-80 Users Group Newsletter
7554 Southgate Road
Fayetteville, NC 28304

Dear Mr. Lloyd:

I need help. I am frustrated in trying to rewrite Ted Lau's Superbagels (Page 39) in Level II. I would write him directly but his address is incomplete. It looked like an easy job and I chose Level II because of the ease of editing. I want to compare his program with my own for Maetermind, Digits, and Comp IV.

Line 490 of his program has an obvious error. It ends with GOTO 4400 which might be 400 or 440.

I inserted DIM A (100) in a new line but still get a BS error in Line 300. I can't get past this point in the program.

I inclose a check for \$5 made out to Ted Lau. Would you please send this to him along with the copy of this letter and ask him to send me a tape with a working version of his program, in Level II if he has it, otherwise in Level I.

I also inclose a cassette with my current interpretation of a Level II version of the Lau Superbagels program. As I said, this program does not work in this form and I don't know how to make it work.

Also on this tape are copies of my similar programs: Maetermind, Digits, and Comp IV in level II. You may publish them if you wish. I have Level I versions of Maetermind and Comp IV I can furnish on request.

If you can help me get workable programs of this in both Level I and Level II, I would reproduce this and my own programs on my Data Dubber for your members at cost (\$2 for either level or both, except digits not in Level I).

Yours very truly,

C.W. Evans

```
10 REM C. W. EVANS. (602) 933-1616
20 REM 9906 AMBER TRAIL, SUN CITY, AZ 85351
30 'VERSION OF 7/10/1979
40 'FOR ACTUAL--GOTO 400
50 REM MASTERMIND OR SUPERMASTERMIND
60 '=====
70 OIMA(30)
80 S=5:Y=0:R=1
90 CLS:P=1
100 PRINT" SUBPROGRAMS:"
110 PRINT"1. DESCRIPTION--CHOOSE MASTERMIND OR SUPERMASTERMIND"
120 PRINT"2. REGULAR GAME
130 PRINT"3. TABLE--FIXED OPENING"
140 PRINT"4. TEST GAME
150 PRINT"5. TEST AND TABLE"
160 PRINT:INPUT"CHOOSE SUBPROGRAM NUMBER "L
170 ON L GOTO 770, 410, 530, 620, 640
180 GOTO 160
190 X=0:FOR Q=1 TO S
200 IF A(Q) <> A(Q+10) THEN 220
210 X=X+1
220 NEXT
230 T=0
240 FORI=1TOS
250 FORO=1TOS
260 IFA(I)<>A(O+10)THEN 300
270 T=T+1
280 A(O+10)=10
290 GOTO 310
300 NEXTO
310 NEXTI
320 O=T-X
330 IFP<>1THEN 370
340 IFS=4PRINT"NO. A B C D OK. WH.":GOTO 360
350 PRINT "NO. A B C D E OK. WH.
360 PRINT"-----"
370 IFS=4PRINTP;" - ";A(21);A(22);A(23);A(24);" - ";:RETURN
380 PRINTP;" - ";A(21);A(22);A(23);A(24);A(25);" - ";
390 RETURN
400 PRINT"ACTUAL IS - ";:FORI=1TOS:PRINTA(I);:NEXTI:END
410 CLS:PRINT"PROGRAM 2--REGULAR GAME"
420 PRINT
430 PRINT"0LACK MATCHES NUMBER AND POSITION"
440 PRINT"WHITE MATCHES NUMBER BUT NOT POSITION--";
450 FORI=1TOS:A(I)=RND(Y):NEXTI
460 PRINTTAB(39);"TRIAL ";W=10:GOSUB 660
470 GOSUB 190 :PRINTX;O;
480 IFX=SGOTO 500
490 P=P+1:GOTO 460
500 PRINTTAB(32);"FOUND ";A$;" IN ";P;" TRIALS
510 P=1
520 PRINT:INPUT"TO PLAY SAME GAME--HIT ENTER";A$:GOTO 170
530 CLS:PRINT"PROGRAM 3--TABLE/FIXED OPENING":P=1
540 W=10
550 FORI=1TOS:A(I)=RND(Y):NEXTI
560 DATA12345, 23456, 34567, 45670
570 RESTORE
580 PRINT
590 FORZ=1TOS-1:REARN:GOSUB 710 :GOSUB 190 :IFX=SGOTO 500
```

```

600 PRINTX;0:P=P+1:IFZ=5-1THEN 460
610 NEXT
620 CLS:P=1:PRINT"PROGRAM 4--TEST GAME --- ENTER TEST",
630 W=0:GOSUB 660 :GOTO 460
640 CLS:P=1:PRINT"PROGRAM 5--TEST GAME/TABLE ENTER TEST",
650 W=0:GOSUB 660 :W=10:GOTO 570
660 INPUTN
670 IFN>99999/RTHEN 700
680 IFN<10000/RTHEN 700
690 GOTO 710
700 PRINT"4 DIGITS FOR MASTERMIND, 5 FOR SUPER":GOTO 660
710 IFN<10000THENN=N+R
720 A(W+1)=INT(N/10000):N=N-A(W+1)*10000
730 A(W+2)=INT(N/1000):N=N-A(W+2)*1000
740 A(W+3)=INT(N/100):N=N-A(W+3)*100
750 A(W+4)=INT(N/10):A(W+5)=N-A(W+4)*10
760 FORI=1TO5:A(20+I)=A(10+I):NEXTI:RETURN
770 PRINT" THIS PROGRAM PLAYS MASTERMIND WITH 6 DIGITS AND
780 PRINT"4 POSITIONS OR SUPERMASTERMIND WITH 0 DIGITS AND
790 PRINT"5 POSITIONS.
800 PRINT" TYPE 4 TO PLAY MASTERMIND OR 5 TO PLAY
810 INPUT"SUPERMASTERMIND, THEN PRESS ENTER. ";S
820 CLS
830 IFS=5V=0:R=1:A$=" A 0 C D E":GOTO 900
840 IFS=4V=6:R=10:A$=" A 0 C D":GOTO 060
850 GOTO 800
860 PRINT" MASTERMIND--THIS PROGRAM RANDOMLY SELECTS
870 PRINT"4 DIGITS FROM 1 TO 6 AND THEN COMPARES 4 TRIAL DIGITS
880 GOTO 920
890 CLS
900 PRINT" SUPERMASTERMIND -- THIS PROGRAM RANDOMLY SELECTS
910 PRINT"5 DIGITS FROM 1 TO 8 AND THEN COMPARES 5 TRIAL DIGITS
920 PRINT"SELECTED BY THE PLAYER WITH THE UNKNOWN DIGITS. IT
930 PRINT"DISPLAYS THE NUMBER OF DIGIT MATCHES IN THE RIGHT
940 PRINT"POSITION AND THE NUMBER OF MATCHES IN THE WRONG
950 PRINT"POSITIONKEY$?N IN EACHTRY?UCCESIVE TRIAL UNTIL ALL DIGITS
960 PRINT"IN THE TRIAL MATCH ALL DIGITS IN THE UNKNOWN.
970 PRINT:INPUT"HIT ENTER WHEN READY ";:GOTO 90

```

***** THE NEWSLETTER IS IN TROUBLE *****

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 MAKE A HARD COPY THE RIGHT SIZE FROM YOUR
 TAPE.
 YOUR EDITOR: R. OORDON LLOYD

```

18 '3/14/79, 11 AM
20 'GOTO 100 FOR ACTUAL
30 'MODIFICATION OF LOGIC PROGRAM--CLOAD--MARCH 1978
40 'D I G I T S BY C. W. EVANS, (602) 933-1616
50 ' 9006 AMBER TRAIL, SUN CITY, AZ 85351
60 '
70 DIMA(50)
80 E=0:D=0:CLS
90
100 PRINT"ACTUAL A B C D IS ",A(21);A(22);A(23);A(24)
110 END
120 PRINT"WELCOME TO THE GAME OF D I G I T S ,
A SIMULATION OF A COMPUTER GAME BY COLECO":PRINT
130 INPUT"WOULD YOU LIKE INSTRUCTIONS? (Y/N) ";J$
140 IF J$="H" THEN 310
150 CLS
160 ' INSTRUCTIONS
170 PRINT"THIS GAME IS MUCH LIKE THE GAME OF MASTERMIND WITH THE "
180 PRINT"FOLLOWING EXCEPTIONS:"
190 PRINT"1) THE GAME OF D I G I T S USES NUMBERS, NOT COLORS."
200 PRINT"2) THE PLAYER MAY SELECT THE HIGHEST DIGIT NUMBER"
210 PRINT" HE WISHES THE COMPUTER TO USE. FOR EXAMPLE, IF THE NUMBER
220 PRINT" 15 3 THE COMPUTER MIGHT SELECT 1332 OR 1212, BUT NOT 1334."
230 PRINT" A BEGINNER MIGHT SELECT 2, 3, OR 4. ADVANCED PLAYERS"
240 PRINT" SELECT 6 OR HIGHER (9 IS THE HIGHEST).
250 PRINT
260 PRINT"3) THIS GAME USES BK. TO LABEL THE DIGITS THAT ARE
270 PRINT" CORRECT AND IN THE CORRECT PLACES. IT USES WH. TO LABEL
280 PRINT" THE DIGITS THAT ARE CORRECT BUT IN THE WRONG PLACE."
290 PRINT
300 INPUT"HIT ENTER WHEN READY. ";A$
310 CLS:PRINT:PRINT:PRINT
320 PRINT"THE OBJECT OF THE GAME IS TO EXACTLY MATCH THE COMPUTER'S"
330 PRINT"FOUR DIGIT NUMBER WITH YOUR FOUR DIGIT NUMBER IN THE LEAST"
340 PRINT"NUMBER OF TRIES, WHICH IS RECORDED FOR YOU. BEST OF LUCK."
350 PRINT:PRINT
360 PRINT"WHAT IS THE HIGHEST DIGIT YOU WANT THE COMPUTER TO PICK?
370 PRINT"REMEMBER THE NUMBER MUST BE BETWEEN 1 AND 9. NUMBER PLS ";
380 INPUT V: IF V=0 OR V > 9 PRINT:GOTO 370
390 V=V+1:PRINT
400 PRINT"THE COMPUTER WILL NOW PICK FOUR DIGITS AT RANDOM."
410 R=0:PRINT
420 FOR I=21 TO 24
430 A(I)=RND(V)-1
440 NEXT I
450 PRINT"PICK FOUR DIGITS YOU THINK WILL MATCH THE COMPUTER'S ";
460 INPUT M
470 IF M=9999 PRINT"4-DIGITS ONLY PLS";:GOTO 460
480 A(25)=INT(M/1000):
490 A(26)=INT((M-A(25)*1000)/100)
500 A(27)=INT((M-(A(25)*1000)-(A(26)*100))/10)
510 A(28)=M-(A(25)*1000)-(A(26)*100)-(A(27)*10)
520 R=R+1
530 D=0 'D=BLACK"
540 REM COMPUTE BLACK
550 FOR I=21 TO 24
560 IF A(I) = A(I+4) THEN D=D+1
570 NEXT I
580 REM COMPUTE WHITE

```



```

590 E=0'           E=WHITE
600 FOR I=25 TO 28
610 A(I+4)=A(I)
620 NEXT I
630 FOR I=21 TO 24
640 FOR Q=29 TO 32
650     IF A(I)>A(Q) THEN 690
660 E=E+1
670 A(Q)=10
680             GOTO 700
690 NEXT Q
700 NEXT I
710 E=E-D
720     IF D=4 THEN 770
730     IF D=42 THEN 770
740 CLS
750 PRINT "NO.   A 0 C D   BK  WH  "
760 PRINT "-----"
770 PRINT R; " - "; A(25); A(26); A(27); A(28); " - ";
780 PRINT D; E;
790     IF D=4 THEN 840
800 INPUT "   NEXT TRIAL   "; M
810     IF M=9999 PRINT "4-DIGITS ONLY PLS"; GOTO 800
820 D=42'           FLAG
830             GOTO 400
840 PRINT "   FOUND IN "; R; " TRIALS"
850 PRINT
860 INPUT "HIT ENTER WHEN READY"; A$
870 D=0:E=0:D=0:CLS:           GOTO 420

```

B A S I C B U G

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```

10 REM COMP IV VERSION OF 7/18/79
20 REM C. M. EVANS, (602) 933-1616
30 REM 9806 AMBER TRAIL, SUN CITY, AZ. 85351
40 'FOR ACTUAL GOTO 400
90 '=====
100 DIM A(30)
110 S=5:R=1
120 P=1:CLS
130 PRINT "   COMP IV--SUBPROGRAMS:"
140 PRINT "1. DESCRIPTION--CHOOSE 3,4,OR 5 PLACES
150 PRINT "2. REGULAR GAME
160 PRINT "3. TABLE--FIXED OPENING"
170 PRINT "4. TEST GAME
180 PRINT "5. TEST AND TABLE"
190 PRINT:INPUT "CHOOSE SUBPROGRAM NUMBER   ";L
200 ONLGOTO 060 , 410 , 570 , 690 , 720
210 GOTO 190
220 X=0:FORQ=1TOS
230 IF A(Q)=A(Q+10)X=X+1
240 NEXT
250 T=0
260 FORO=1TOS
270 FORI=1TOS
280 IF A(I)=A(O+10)T=T+1:GOTO 300
290 NEXTI
300 NEXTO
310 IF P>1 THEN 360
320 IFS=3PRINT "   A 0 C   NR. SQ.":GOTO 350
330 IFS=4PRINT "   A 0 C D   NR. SQ.":GOTO 350
340 PRINT "   " " A 0 C O E   NR. SQ."
350 PRINT "-----"
360 IFS=4PRINT " - "; A(21); A(22); A(23); A(24); " - "; RETURN
370 IFS=3PRINT " - "; A(21); A(22); A(23); " - "; RETURN
380 PRINT " - "; A(21); A(22); A(23); A(24); A(25); " - ";
390 RETURN
400 PRINT "ACTUAL IS - "; FORI=1TOS:PRINT A(I);:NEXTI:END
410 CLS:PRINT "PROGRAM 2, COMP IV, ";S;" PLACES."
420 PRINT
430 PRINT "NR. =NUMBER OF 'IN' DIGITS
440 PRINT "SQ. =NUMBER OF DIGITS IN PROPER SEQUENCE.
450 FORI=1TOS
460 A(I)=RND(10)-1
470 FORJ=1TOI:IFA(I)=A(I-J)GOTO 460
480 NEXTJ
490 NEXTI
500 PRINTTAB(39); "TRIAL ";:W=10:GOSUB 750
510 GOSUB 220:PRINTT;X;
520 IFX=5GOTO 540
530 P=P+1:GOTO 500
540 PRINTTAB(32); "FOUND ";A$; " IN ";P; " TRIALS"
550 P=1:RESTORE:PRINT
560 INPUT "TO PLAY SAME GAME AGAIN--HIT ENTER ";A$:GOTO 200
570 CLS:PRINT "COMP IV PROGRAM 3--FIXED OPENING. ";S;" PLACES. ";P=1
580 PRINT:W=10
590 FORI=1TOS
600 A(I)=RND(10)-1
610 FORJ=1TOI:IFA(I)=A(I-J)GOTO 600
620 NEXTJ
630 NEXTI

```

```

640 DATA 11222, 33444, 55666, 77888
650 FORZ=1 TO 4: READ: GOSUB 800: GOSUB 220: IFX=SGOTO 540
660 PRINT: X: P=P+1
670 IFZ=4 GOTO 500
680 NEXTZ
690 CLS: PRINT "COMP IV PROGRAM 4--TEST "; S; " PLACES": P=1
700 PRINT "    ENTER TEST ";
710 W=0: GOSUB 750: GOTO 500
720 CLS: P=1: PRINT "COMP IV PROGRAM 5--TEST AND TABLE"; S; " PLACES
730 PRINT "    ENTER TEST ";
740 W=0: GOSUB 750: W=10: GOTO 450
750 INPUT N
760 IF N=99999/9 GOTO 790
770 N=N*R
780 GOTO 800
790 PRINT: "DIGITS PLEASE": GOTO 750
800 REM
810 A(W+1)=INT(N/10000): N=N-A(W+1)*10000
820 A(W+2)=INT(N/1000): N=N-A(W+2)*1000
830 A(W+3)=INT(N/100): N=N-A(W+3)*100
840 A(W+4)=INT(N/10): A(W+5)=N-A(W+4)*10
850 FOR I=1 TO 5: A(20+I)=A(10+I): NEXT I: RETURN
960 CLS: PRINT: PRINT
970 PRINT "1. THIS PROGRAM SIMULATES MILTON BRADLEY'S COMP IV
980 PRINT "    SOLVE THE NUMBER THE COMPUTER HAS IN ITS MEMORY.
990 PRINT "2. NO DIGIT WILL BE REPEATED.
1000 PRINT "3. DIGITS RANGE FROM 0 TO 9.
1010 PRINT "4. PROGRAM PLAYS 3, 4, OR 5 DIGITS AS ORDERED.
1020 PRINT "5. AFTER PLAYER ENTERS GUESS, COMPUTER DISPLAYS:
1030 PRINT "    A) NUMBER OF CORRECT DIGITS (TOTAL).
1040 PRINT "    B) NUMBER OF DIGITS IN SEQUENCE (RIGHT POSITION).
1050 PRINT
1060 INPUT "HIT ENTER TO CONTINUE. "; A$
1070 CLS: PRINT: PRINT
1080 PRINT "6. IF A DIGIT IS DUPLICATED IN GUESS, COMPUTER SCORES FOR EACH
1090 PRINT "    TIME IT IS ENTERED; THUS IF 1 IS IN 11111 WOULD SCORE 5-1.
1100 PRINT "7. IF 1 AND 2 ARE BOTH IN 11222 WOULD SCORE 5-0, 5-1, OR 5-2
1110 PRINT "    DEPENDING ON LOCATION OF 1 AND 2 IN THE UNKNOWN.
1120 PRINT "    THIS IS HELPFUL IN ONE STRATEGY.
1130 PRINT "8. THE OBJECT OF THE GAME IS TO FIND THE UNKNOWN IN THE
1140 PRINT "    LEAST NUMBER OF TRIALS.
1150 PRINT "9. PAR IS 0 TRIALS FOR A 5-DIGIT GAME.
1160 PRINT: PRINT
1170 INPUT "DO YOU WANT TO PLAY 3, 4, OR 5 DIGITS? "; S
1180 IFS=3: R=100: A$="A B C"
1190 IFS=4: A$="A B C D": R=10
1200 IFS=5: A$="A B C D E": R=1
1210 IFS>5 GOTO 1070
1220 GOTO 120

```

- COMP IV--SUBPROGRAMS:
1. DESCRIPTION--CHOOSE 3, 4, OR 5 PLACES
 2. REGULAR GAME
 3. TABLE--FIXED OPENING
 4. TEST GAME
 5. TEST AND TABLE

CHOOSE SUBPROGRAM NUMBER ? 2.

PROGRAM 2, COMP IV, 5 PLACES.

NR.=NUMBER OF 'IN' DIGITS										TRIAL ? 11111	
SQ.=NUMBER OF DIGITS IN PROPER SEQUENCE											
#	A	B	C	D	E	NR.		SQ.			
1	-	1	1	1	1	-	0	0	TRIAL ? 22222		
2	-	2	2	2	2	-	5	1	TRIAL ? 21111		
3	-	2	1	1	1	-	1	0	TRIAL ? 12111		
4	-	1	2	1	1	-	1	0	TRIAL ? 11211		
5	-	1	1	2	1	-	1	0	TRIAL ? 11121		
6	-	1	1	1	2	-	1	0	TRIAL ? 11112		
7	-	1	1	1	1	2	-	1	1		TRIAL ? 33332
8	-	3	3	3	3	2	-	1	1		TRIAL ? 44442
9	-	4	4	4	4	2	-	5	2		TRIAL ? 41112
10	-	4	1	1	1	2	-	2	1		TRIAL ? 14112
11	-	1	4	1	1	2	-	2	1		TRIAL ? 11412
12	-	1	1	4	1	2	-	2	2		TRIAL ? 55452
13	-	5	5	4	5	2	-	5	3		TRIAL ? 51412
14	-	5	1	4	1	2	-	3	2		TRIAL ? 15412
15	-	1	5	4	1	2	-	3	2		TRIAL ? 11452
16	-	1	1	4	5	2	-	3	3		TRIAL ? 66452
17	-	6	6	4	5	2	-	3	3		TRIAL ? 77452
18	-	7	7	4	5	2	-	5	4		TRIAL ? 71452
19	-	7	1	4	5	2	-	4	3		TRIAL ? 07452
20	-	0	7	4	5	2	-	5	5		FOUND IN 20 TRIALS

TO PLAY SAME GAME AGAIN--HIT ENTER. ? _